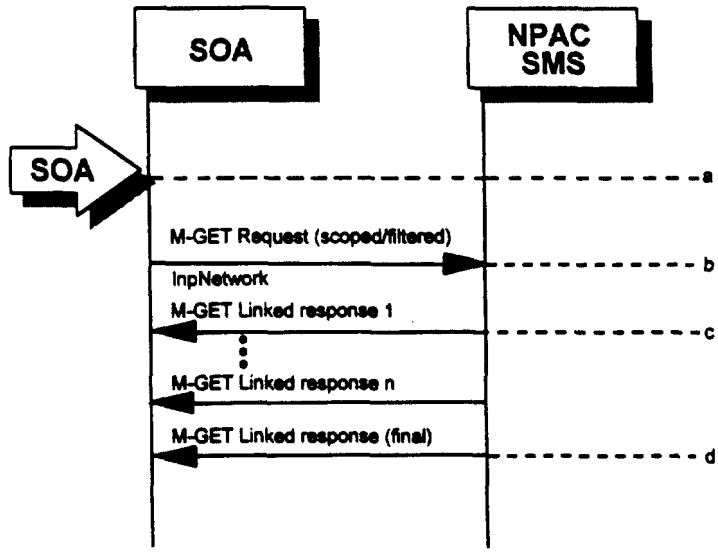
6.4.2.11. Scoped/Filtered GET of Network Data from SOA

This scenario shows a request for network data via a scoped/filtered M-GET. In this case, scoping is done from the lnpNetwork object. However, scoping and filtering can be done from serviceProvNetwork and serviceProvNPA-NXX objects.



a. Action is taken by the SOA personnel to request network data via a scoped/filtered M-GET request.

b. The SOA sends a scoped/filtered M-GET request to the NPAC SMS.

c. The NPAC SMS sends network data objects (serviceProvNetwork, serviceProvNPA-NXX, serviceProvLRN) that pass the scope/filter criteria to the SOA that initiated the request.

d. A final M-GET response is sent to the SOA that initiated the request once all scoped/filtered network objects have been returned.

6.5. SubscriptionVersion Flow Scenarios

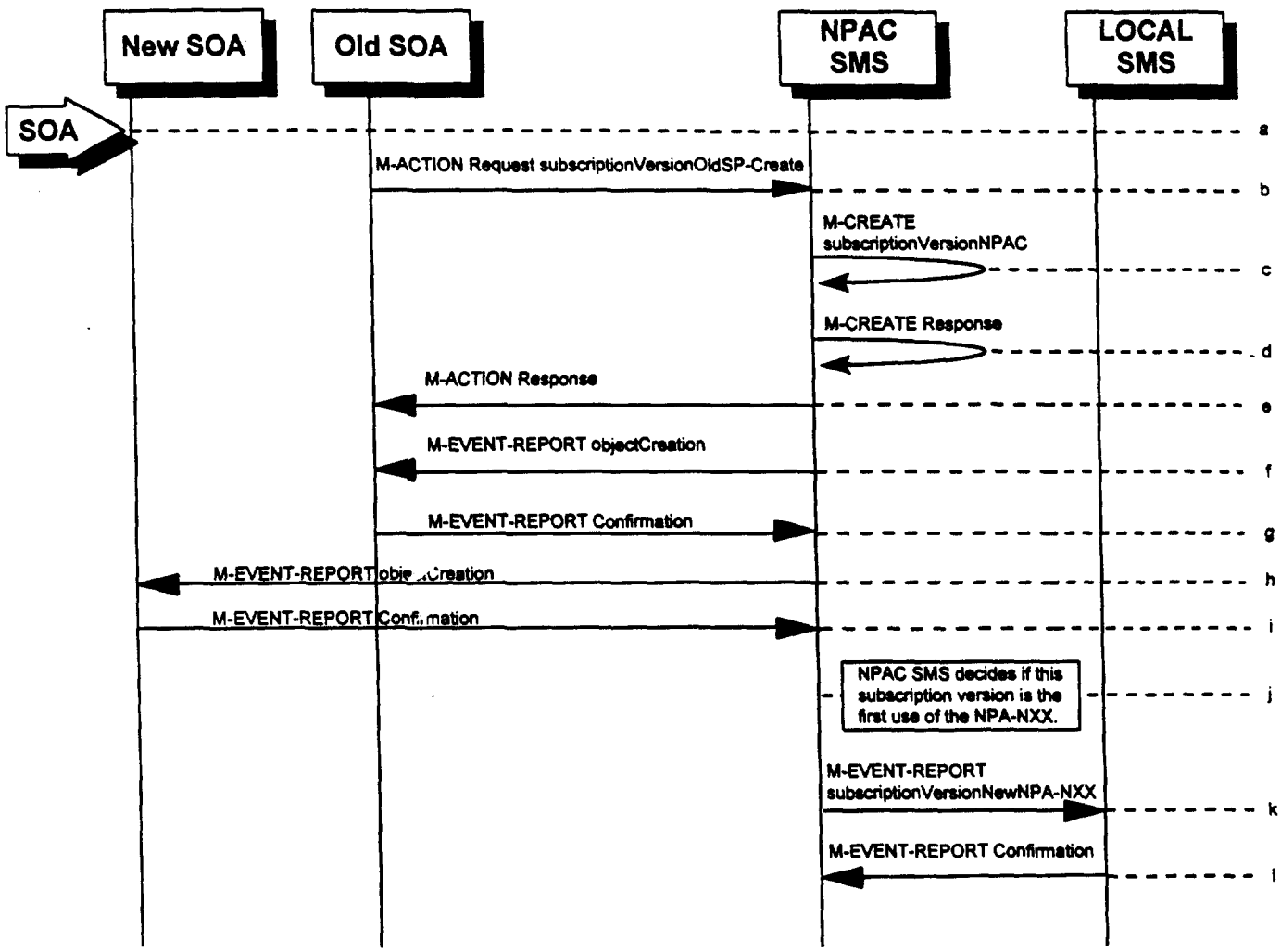
6.5.1. SubscriptionVersion Create Scenarios

The subscriptionVersionNPAC object is created by either the new or old service provider SOA issuing their M-ACTION to create the subscription version. If the new service provider SOA issues its subscriptionVersionNewSP-Create action first, the old service provider SOA has the option of sending in the subscriptionVersionOldSP-Create action or not. If they do send in the subscriptionVersionOldSP-Create, the old service provider explicitly states their concurrence or non-concurrence to the port by the value set within the subscriptionOldSP-Authorization field. If the old service provider does not send in their create request within the concurrence window, this implies concurrence to the port. However, the old service provider can send in their create request after the concurrence window before activation of the subscription version and the NPAC SMS will accept the data if valid.

If the old service provider SOA issues its subscriptionVersionOldSP-Create action first, then the new service provider SOA must issue its subscriptionVersionNewSP-Create action.

6.5.1.1. SubscriptionVersion Create by the Initial SOA (Old Service Provider)

In this scenario, the old service provider is the first to send the M-ACTION to create the subscriptionVersion object.



a. Action is taken by the old service provider SOA to create a new version of a subscriber.

b. Old service provider SOA sends M-ACTION subscriptionVersionOldSP-Create to the NPAC SMS lnpSubscriptions object to create a new subscriptionVersionNPAC. The old service provider SOA must specify the following valid attributes:

subscriptionTN or a valid subscriptionVersionTN-Range
subscriptionNewCurrentSP
subscriptionOldSP
subscriptionOldSP-DueDate
subscriptionOldSP-Authorization
subscriptionLNPType

If the service provider were to give a range of TNs, this would result in an M-CREATE and M-EVENT-REPORT for each TN.

If an attribute value is invalid, an invalidArgumentValue will be returned, indicating invalid data values. Other appropriate errors will also be returned.

c. If the request is valid, the NPAC SMS will create the subscriptionVersionNPAC object. The status will be set to "pending" and the subscriptionOldSP-AuthorizationTimeStamp and subscriptionModifiedTimeStamp will be set.

d. NPAC SMS responds to M-CREATE.

e. NPAC SMS sends action reply with success or failure and reasons for failure.

f. If the M-ACTION was successful, the NPAC SMS issues an M-EVENT-REPORT to old service provider SOA of subscriptionVersionNPAC creation.

g. Old service provider SOA responds by sending an M-EVENT-REPORT confirmation back to the NPAC SMS.

h. If the M-ACTION was successful, the NPAC SMS issues an M- EVENT-REPORT to new service provider SOA of subscriptionVersionNPAC creation.

i. New service provider SOA issues an M-EVENT-REPORT confirmation to NPAC SMS.

j. NPAC SMS decides if this subscription version is the first use or the NPA-NXX.

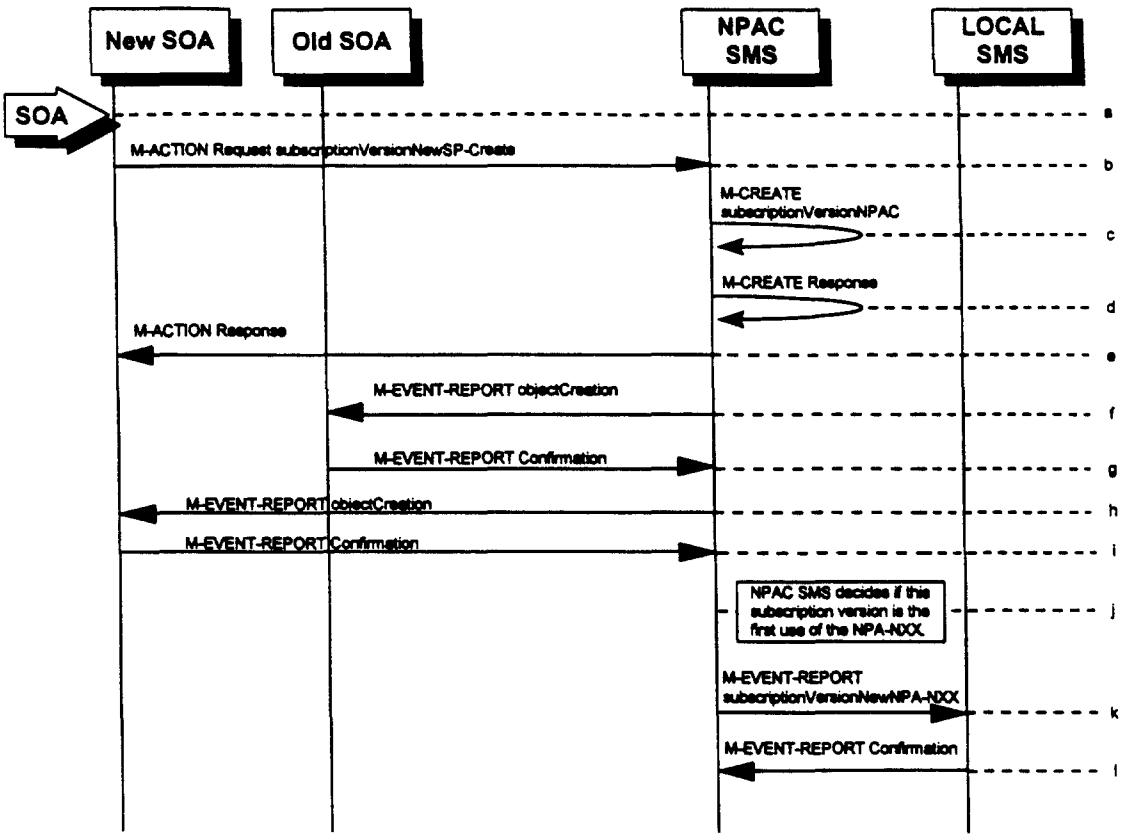
k. If this is the first use of the NPA-NXX, the NPAC SMS sends the subscriptionVersionNewNPA-NXX M-EVENT-REPORT to inform the accepting Local SMSs.

l. The Local SMS confirms the M-EVENT-REPORT.

The next scenario would be "SubscriptionVersion Create by the Second SOA (New Service Provider)."

6.5.1.2. SubscriptionVersion Create by the Initial SOA (New Service Provider)

In this scenario, the new service provider is the first to send the M-ACTION to create the subscriptionVersion object.



a. Action is taken by the new service provider SOA to create a new version of a subscriber.

b. New service provider SOA sends M-ACTION subscriptionVersionNewSP-Create to the NPAC SMS lnpSubscriptions object to create a new subscriptionVersionNPAC. The new service provider SOA must specify the following valid attributes:

subscriptionTN or a valid subscriptionVersionTN-Range
subscriptionNewCurrentSP
subscriptionOldSP
subscriptionNewSP-DueDate
subscriptionLNPType
subscriptionPortingToOriginal-SP Switch

The following items must be provided unless subscriptionPortingToOriginal-SP is true:

subscriptionLRN
subscriptionCLASS-DPC
subscriptionCLASS-SSN
subscriptionLIDB-DPC
subscriptionLIDB-SSN

subscriptionCNAM-DPC
subscriptionCNAM-SSN
subscriptionISVM-DPC
subscriptionISVM-SSN

The following attributes are optional:

subscriptionEndUserLocationValue
subscriptionEndUserLocationType
subscriptionBillingId

If the service provider were to give a range of TNs, this would result in an M-CREATE and M-EVENT-REPORT for each TN.

If any attribute is invalid, an action failure will be returned, indicating invalidArgumentValue. Other appropriate errors will also be returned.

c. If the request is valid, the NPAC SMS will create the subscriptionVersionNPAC object. The status will be set to "pending" and the ~~subscriptionNewSP-AuthorizationTimeStamp,~~ subscriptionModifiedTimeStamp and subscriptionCreationTimeStamp will be set.

d. NPAC SMS responds to M-CREATE.

e. NPAC SMS sends action reply with success or failure and reasons for failure.

f. If the M-ACTION was successful, NPAC SMS issues an M-EVENT-REPORT to old service provider SOA of subscriptionVersionNPAC creation.

g. Old service provider SOA responds by sending an M-EVENT-REPORT confirmation back to the NPAC SMS.

h. If the M-ACTION was successful, NPAC SMS issues an M-EVENT-REPORT to new service provider SOA of subscriptionVersionNPAC creation.

i. New service provider SOA issues an M-EVENT-REPORT confirmation to NPAC SMS.

j. NPAC SMS decides if this subscription version is the first use or the NPA-NXX.

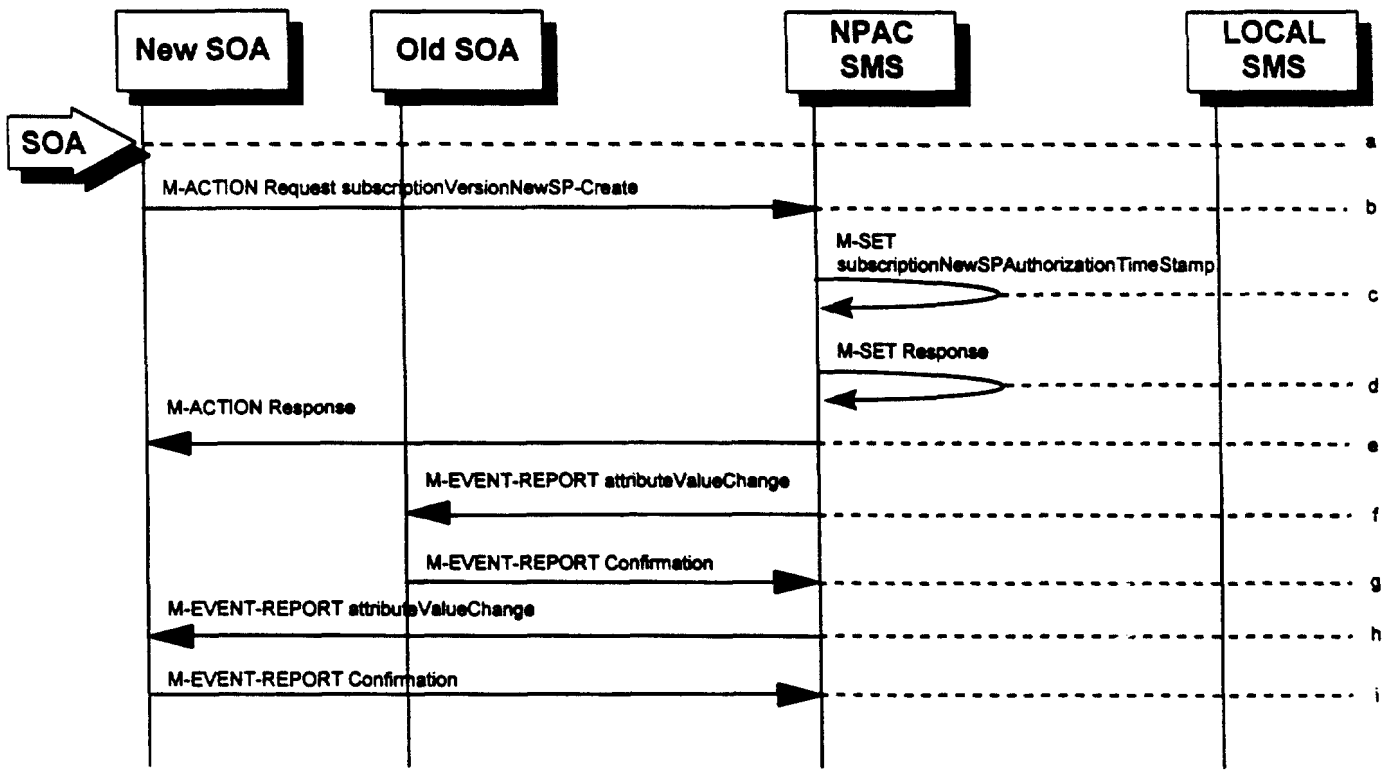
k. If this is the first use of the NPA-NXX, the NPAC SMS sends the subscriptionVersionNewNPA-NXX M-EVENT-REPORT to inform the accepting Local SMSs.

l. The Local SMS confirms the M-EVENT-REPORT.

The next scenario is either "SubscriptionVersion Create by the Second SOA (Old Service Provider)." or "SubscriptionVersion Activated by New Service Provider SOA".

6.5.1.3. SubscriptionVersion Create by Second SOA (New Service Provider)

In this scenario, the old service provider has already issued its request causing the subscriptionVersionNPAC to be created. The new service provider is now following with its own create action.



a. New service provider SOA personnel take action to create a new subscription version.

b. New service provider SOA sends M-ACTION subscriptionVersionNewSP-Create to NPAC SMS lnpSubscriptions object to create a new subscriptionVersionNPAC. The new service provider SOA must specify the following valid attributes:

subscriptionTN or a valid subscriptionVersionTN-Range
subscriptionNewCurrentSP
subscriptionOldSP
subscriptionNewSP-DueDate
subscriptionLNPType
subscriptionPortingToOriginal-SP Switch

The following items must be provided unless subscriptionPortingToOriginal-SP is true:

subscriptionLRN
subscriptionCLASS-DPC
subscriptionCLASS-SSN
subscriptionLIDB-DPC
subscriptionLIDB-SSN
subscriptionCNAM-DPC

subscriptionCNAM-SSN
subscriptionISVM-DPC
subscriptionISVM-SSN

The following attributes are optional:

subscriptionEndUserLocationValue
subscriptionEndUserLocationType
subscriptionBillingId

If a TN range is specified in the request, it would result in an M-SET request and M-EVENT-REPORT for each TN.

If the new service provider is not the new service provider specified in the initial create by the old service provider, an accessDenied error will be returned.

If any attribute is invalid, an action failure will be returned, indicating invalidArgumentValue. Other appropriate errors will be returned.

c. If successful, the NPAC SMS sets the ~~subscriptionNewSP-AuthorizationTimeStamp,~~ subscriptionModifiedTimeStamp, subscriptionCreationTimeStamp, and all data specified in the M-ACTION.

d. NPAC SMS responds to M-SET.

e. NPAC SMS sends M-ACTION reply with success or failure and reasons for failure.

f. NPAC SMS issues the M-EVENT-REPORT to the old service provider when the subscriptionNewSP-DueDate changes value.

g. Old service provider SOA issues M-EVENT-REPORT confirmation.

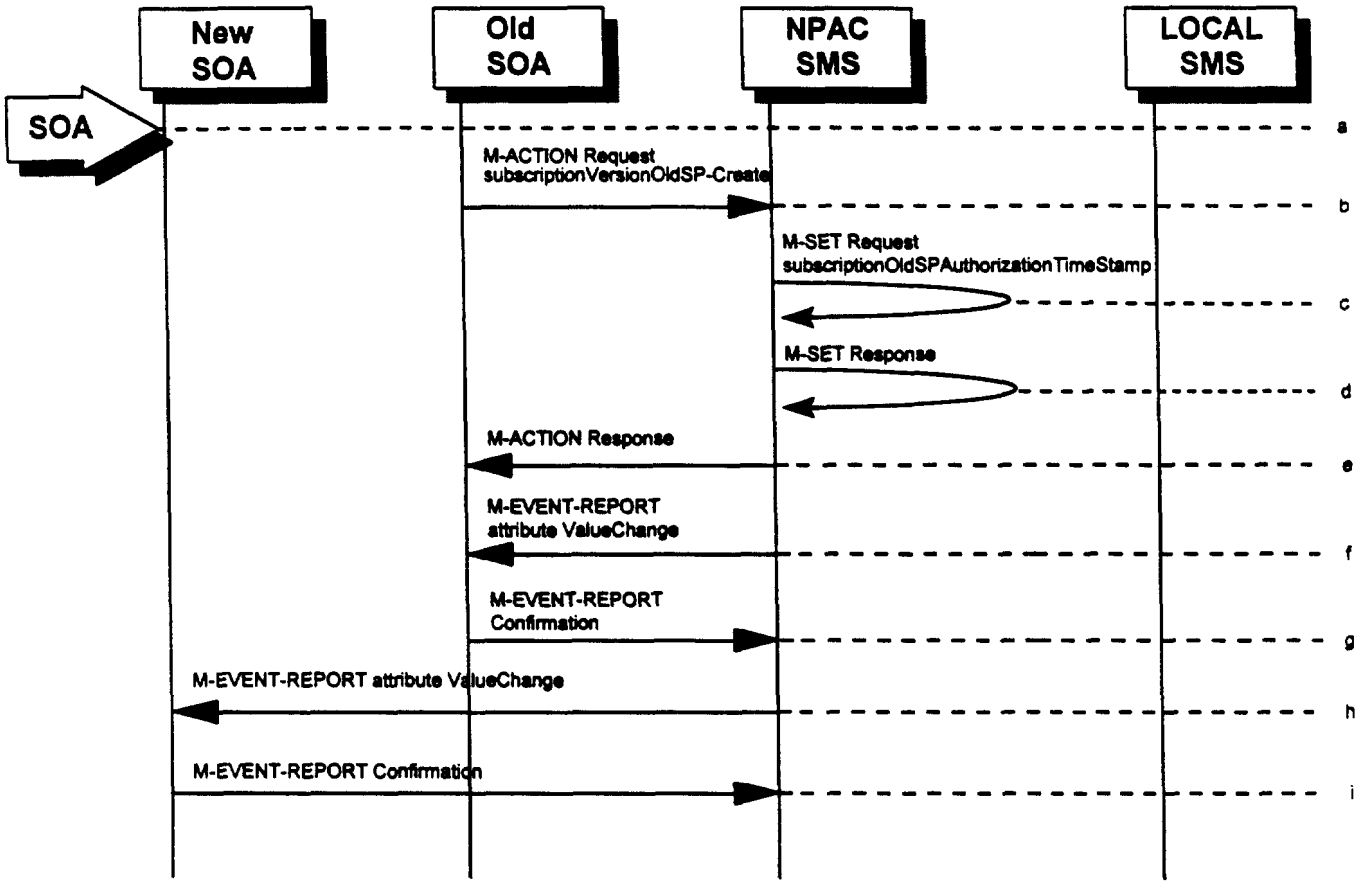
h. If the M-ACTION was successful, the NPAC SMS issues M-EVENT-REPORT to the new service provider for all attributes updated from the preceding list of modifiable attributes.

i. New service provider SOA issues M-EVENT-REPORT confirmation.

6.5.1.4. SubscriptionVersion Create by Second SOA (Old Service Provider)

In this scenario, the new service provider has already issued its request causing the subscriptionVersionNPAC to be created. The old service provider is now following with its own create action.

Note: This is an optional step.



a. Old service provider SOA personnel take action to create a old subscription version.

b. Old service provider SOA sends M-ACTION subscriptionVersionOldSP-Create to NPAC SMS lnpSubscriptions object to create an old subscriptionVersionNPAC. The old service provider SOA must specify the following valid attributes:

subscriptionTN or a valid subscriptionVersionTN-Range
subscriptionNewCurrentSP
subscriptionOldSP
subscriptionOldSP-Authorization
subscriptionOldSP-DueDate
subscriptionLNPType

If a TN range is specified in the request, it would result in an M-SET request and M-EVENT-REPORT for each TN.

If the old service provider is not the old service provider specified in the initial create request by the new service provider, an accessDenied error will be returned.

If any attribute is invalid, an invalidArgumentValue will be returned, indicating invalid data values. Other appropriate errors will also be returned.

c. If the data is valid, the NPAC SMS sets the subscriptionOldSP-AuthorizationTimeStamp, subscriptionModifiedTimeStamp and all data specified in the M-ACTION.

d. NPAC SMS responds to M-SET.

e. NPAC SMS sends M-ACTION reply with success or failure and reasons for failure.

f. If the M-ACTION was successful, the NPAC SMS issues M-EVENT-REPORT attribute value change to the old service provider for all attributes updated from the following list:

subscriptionOldSP-DueDate
subscriptionOldSP-Authorization

g. Old service provider SOA issues M-EVENT-REPORT confirmation.

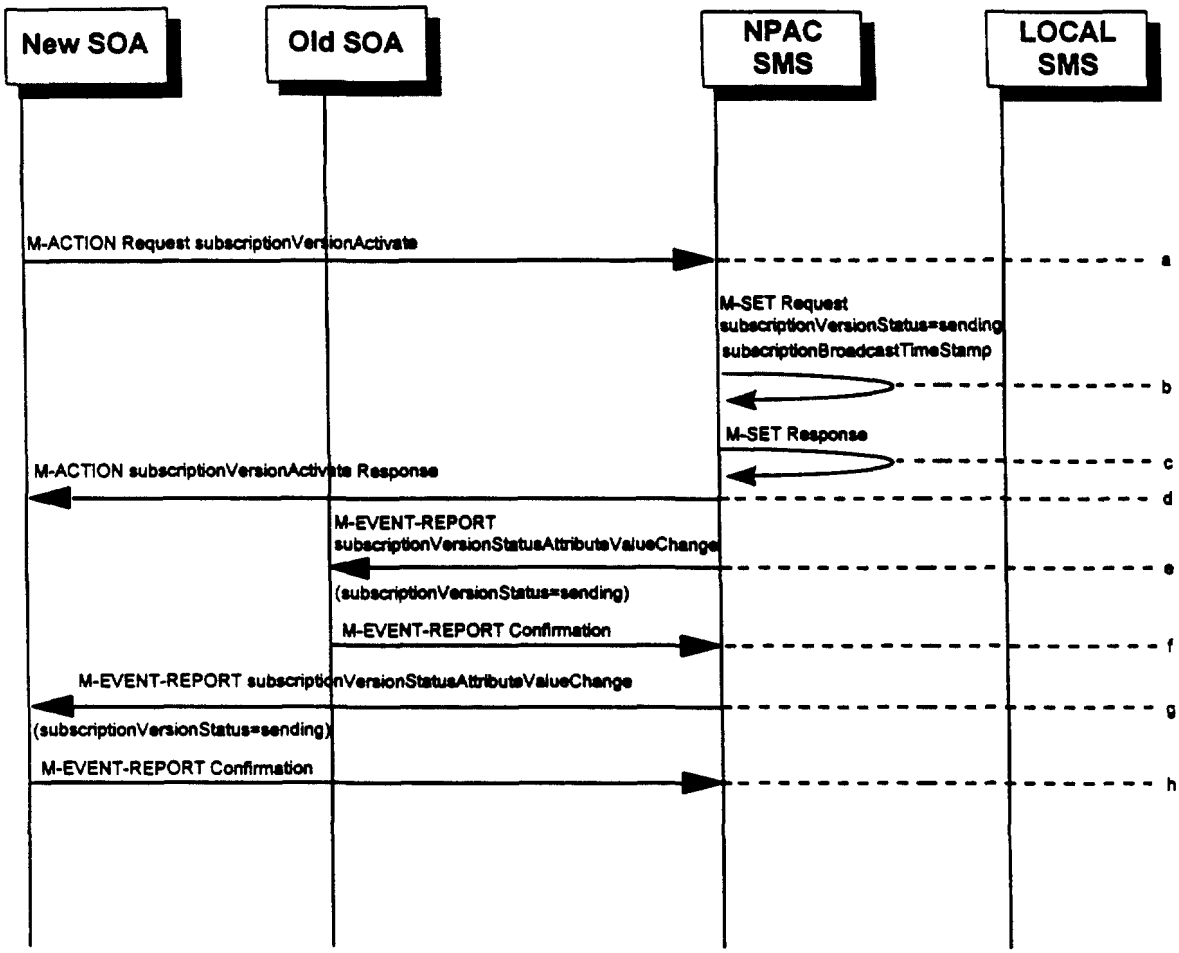
h. If the M-ACTION was successful, the NPAC SMS issues M-EVENT-REPORT attribute value change to the new service provider for all attributes updated from the preceding list.

i. New service provider issues M-EVENT-REPORT confirmation.

The next scenario would be "SubscriptionVersion Activated by New Service Provider SOA."

6.5.1.5. SubscriptionVersion Activated by New Service Provider SOA

In this scenario, either both service providers have sent their create data updates for a new subscription version to the NPAC SMS or the concurrence window has expired for receiving the subscriptionVersionOldSP-Create action. The new service provider can now activate the subscription version.



a. The new service provider SOA issues a subscriptionVersionActivate M-ACTION to the NPAC SMS lnpSubscriptions object to activate the pending subscription version by specifying the subscription version ID, subscription version TN, or a range of subscription version TNs.

b. NPAC SMS issues an M-SET request setting the subscriptionVersionStatus to "sending," subscriptionBroadcastTimeStamp and subscriptionModifiedTimeStamp on the subscriptionVersionNPAC object.

c. NPAC SMS responds to the M-SET.

d. The NPAC SMS responds with the M-ACTION response. An error will be returned if the service provider is not the new service provider (accessDenied) or if there is no version to be activated (invalidArgumentValue) or if any other failures occur.

e. If the M-ACTION was successful, the NPAC SMS sends to the old SOA a subscriptionVersionStatusAttributeValueChange for the subscriptionVersionStatus being set to "sending".

f. The old service provider SOA returns an M-EVENT-REPORT confirmation to the NPAC SMS.

g. If the M-ACTION was successful, the NPAC SMS sends to the new service provider SOA a subscriptionVersionStatusAttributeValueChange for the subscriptionVersionStatus being set to "sending."

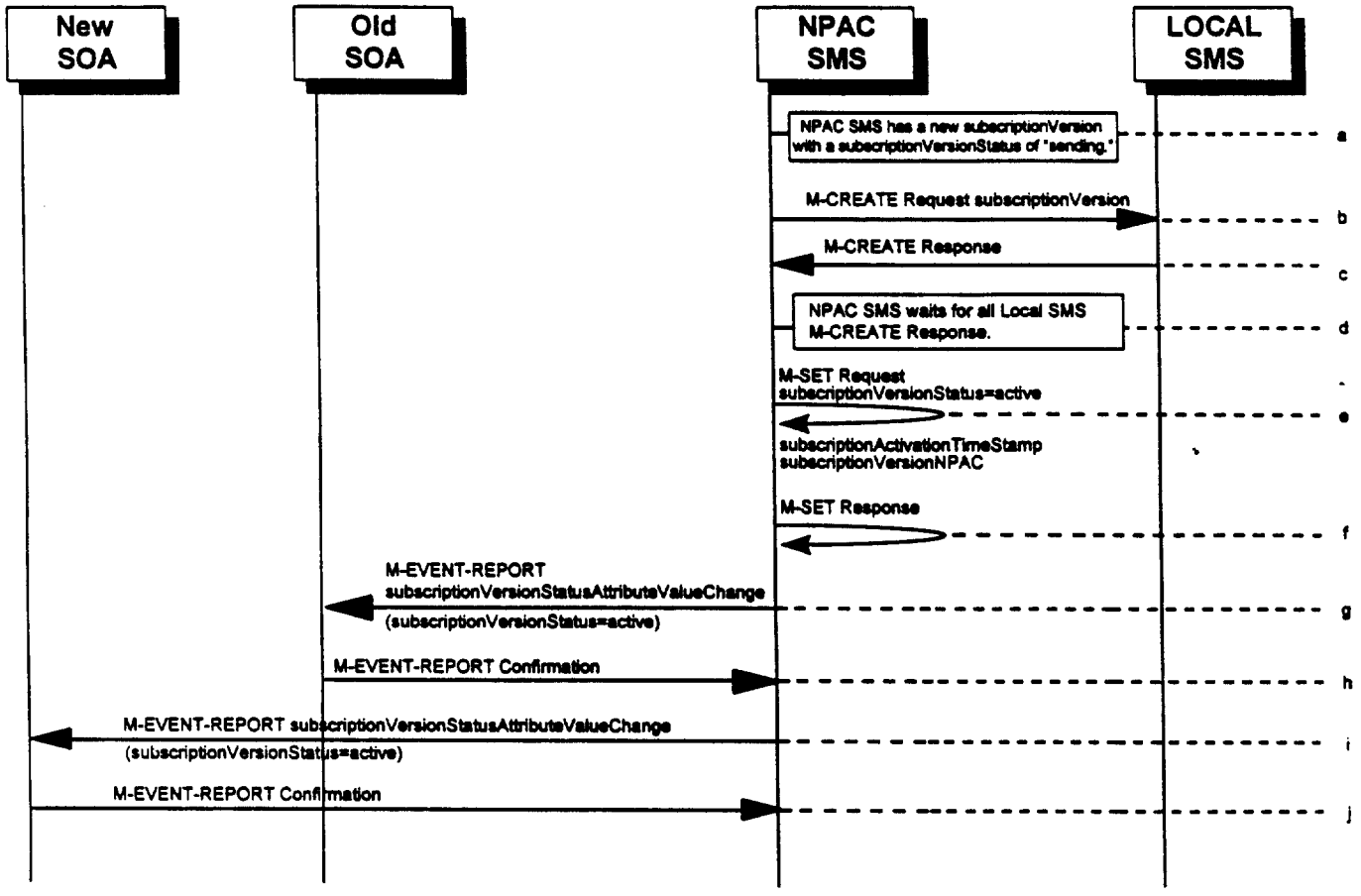
h. The new service provider SOA returns an M-EVENT-REPORT confirmation to the NPAC SMS.

For subscription versions that are not being ported to the original service provider's switch, processing continues in the "Active SubscriptionVersion Create on Local SMSs" flow.

For ports to the original service provider's switch, the flow follows an immediate disconnect scenario. The NPAC SMS sets the broadcast timestamp, notifies the service provider SOA of the status change and proceeds to issue M-DELETEs for the subscriptionVersion to the Local SMS.

6.5.1.6. Active SubscriptionVersion Create on Local SMS

This scenario and associated error scenarios reflect the message flow for all new object create requests from the NPAC SMS to the Local SMSs.



a. NPAC SMS has a new subscriptionVersion with a status of "sending."

b. The NPAC SMS issues an M-CREATE for the subscriptionVersion to each of the Local SMSs.

c. Each Local SMS will reply to the M-CREATE.

d. NPAC SMS waits for Local SMSs to report successful objectCreation.

e. NPAC SMS issues an M-SET to update the subscriptionVersionStatus to "active" for the subscriptionVersionNPAC if all creates are successful, and sets the subscriptionActivationTimeStamp and subscriptionModifiedTimeStamp for the current version.

f. NPAC SMS responds to M-SET.

g. If the subscriptionVersion NPAC object was modified, the NPAC SMS will issue M-EVENT-REPORT notifications to the old service provider SOA of the status change using an M-EVENT-REPORT subscriptionVersionStatusAttributeValueChange.

h. The old service provider SOA returns an M-EVENT-REPORT confirmation to the NPAC SMS.

i. If the subscriptionVersion NPAC object was modified, the NPAC SMS will issue M-EVENT-REPORT notifications to the new service provider SOA of the status change using an M-EVENT-REPORT subscriptionVersionStatusAttributeValueChange.

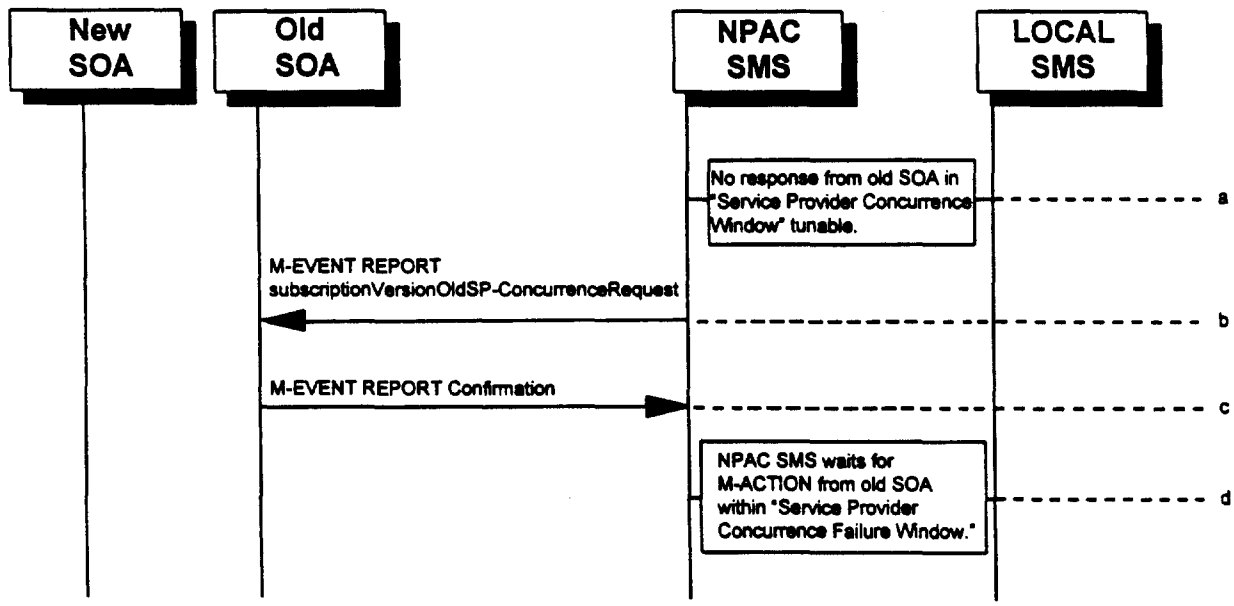
j. The new service provider SOA returns an M-EVENT-REPORT confirmation to the NPAC SMS.

h. NPAC SMS waits for all responses a tunable amount of time. The default is 1 hour.

6.5.1.6.2. SubscriptionVersion Create: No Create Action from the Old Service Provider SOA After Concurrence Window

This scenario shows no response within "Service Provider Concurrence Window" by ~~one of~~ the old service provider SOAs.

In this case, the new service provider SOA issued the create request. The NPAC SMS has issued the ObjectCreation M-EVENT-REPORT back to both the old and new service provider SOAs. No response has yet been received by the old service provider SOA.



a. NPAC SMS does not receive a response from the old service provider SOA within "Service Provider Concurrence Window" for the pending subscriptionVersionNPAC created by the new service provider SOA.

b. NPAC SMS sends the old service provider an M-EVENT-REPORT subscriptionVersionOldSP-ConcurrenceRequest.

c. The old service provider SOA returns an M-EVENT-REPORT confirmation to the NPAC SMS.

d. Old service provider has up to "Service Provider Concurrence Failure Window" to respond to the request.

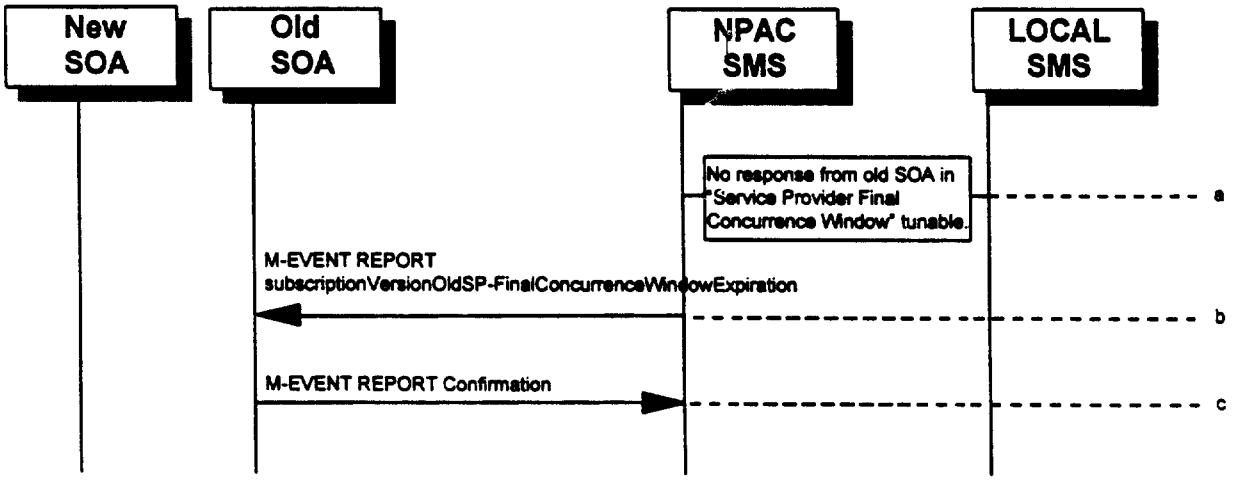
If the old service provider SOA responds with a valid M-ACTION or M-SET, processing resumes as a successful create.

6.5.1.6.3. ~~SubscriptionVersion Create: No Create Action from the Old Service Provider SOA After Final Concurrence Window~~SubscriptionVersion Create: No Create Action from the Old Service Provider SOA After Final Concurrence Window

~~This scenario shows no response within "Service Provider Final Concurrence Window" by one of the service provider SOAs.~~

~~In this case, the new service provider SOA issued the create request. The NPAC SMS has issued the ObjectCreation M-EVENT-REPORT back to both the old and new service provider SOAs as well as a subsciptionVersionOldSP-ConcurrenceRequest M-Event-Report to the old SP SOA. No response has yet been received by the old service provider SOA.~~This scenario shows no response within "Service Provider Final Concurrence Window" by the old service provider SOA.

In this case, the new service provider SOA issued the create request. The NPAC SMS has issued the ObjectCreation M-EVENT-REPORT back to both the old and new service provider SOAs as well as a subsciptionVersionOldSP-ConcurrenceRequest M-EVENT-REPORT to the old service provider SOA. No response has yet been received by the old service provider SOA.



a. ~~NPAC SMS does not receive a response from the old service provider SOA within "Service Provider Final Concurrence Window" for the pending subscriptionVersionNPAC created by the new service provider SOA.~~NPAC SMS does not receive a response from the old service provider SOA within "Service Provider Final Concurrence Window" for the pending subscriptionVersionNPAC created by the new service provider SOA.

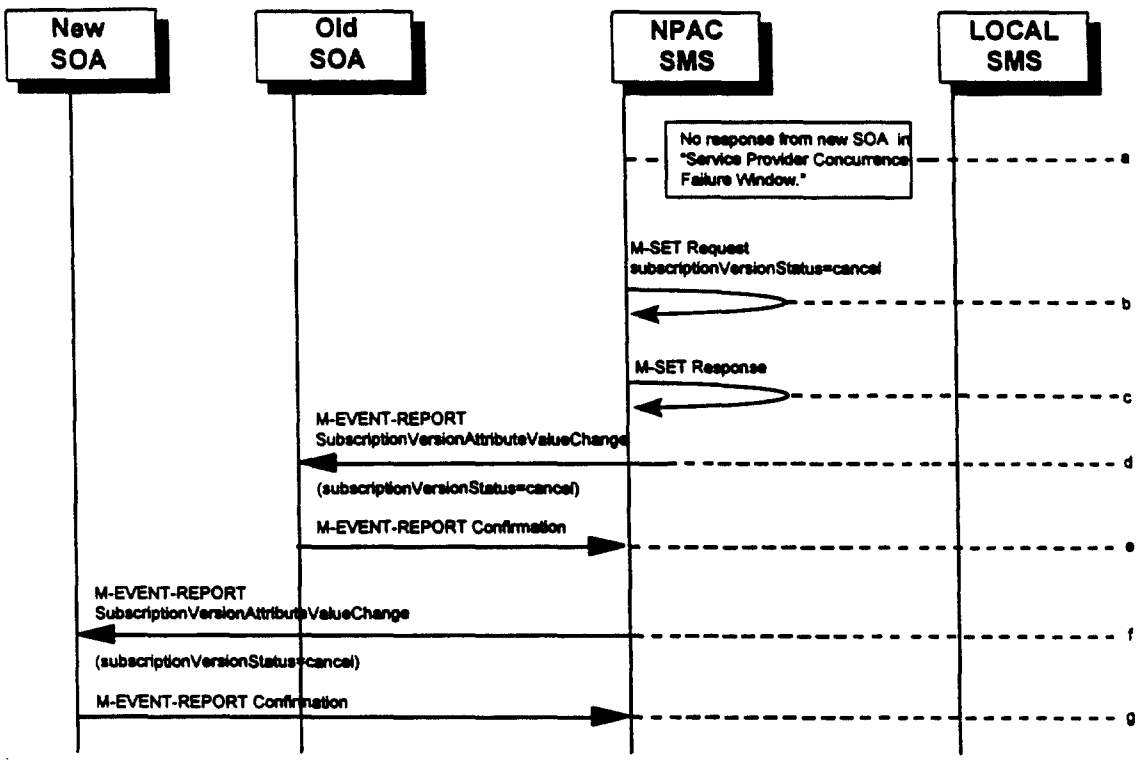
b. ~~NPAC SMS sends the old service provider an M-EVENT-REPORT subscriptionVersionOldSP-Final ConcurrenceWindow Expiration.~~NPAC SMS sends the old service provider an M-EVENT-REPORT subscriptionVersionOldSP-Final ConcurrenceWindowExpiration.

c. ~~The old service provider SOA returns an M-EVENT-REPORT confirmation to the NPAC SMS.~~The old service provider SOA returns an M-EVENT-REPORT confirmation to the NPAC SMS.

~~If the old service provider SOA responds with a valid M-ACTION or M-SET prior to activation by the new SP, the SV will be updated.~~If the old service provider SOA responds with a valid
M-ACTION or M-SET prior to activation by the new service provider, the subscription version will be updated.

6.5.1.6.4. Subscription Version Create: Failure to Receive Response from New SOA

This scenario shows action taken by the NPAC SMS after not receiving any concurrence from the new service provider after the "Service Provider Concurrence Failure Window."



a. NPAC SMS receives no occurrence from the new service provider SOA in "Service Provider Concurrence Failure Window" for the pending subscriptionVersionNPAC created by the old service provider SOA.

b. NPAC SMS issues M-SET for subscriptionVersionStatus to set it to "cancel" and the subscriptionModifiedTimeStamp in the subscriptionVersionNPAC object.

c. NPAC SMS responds to M-SET.

d. If the subscriptionVersionNPAC object was modified, the NPAC SMS notifies the old service provider of the status change.

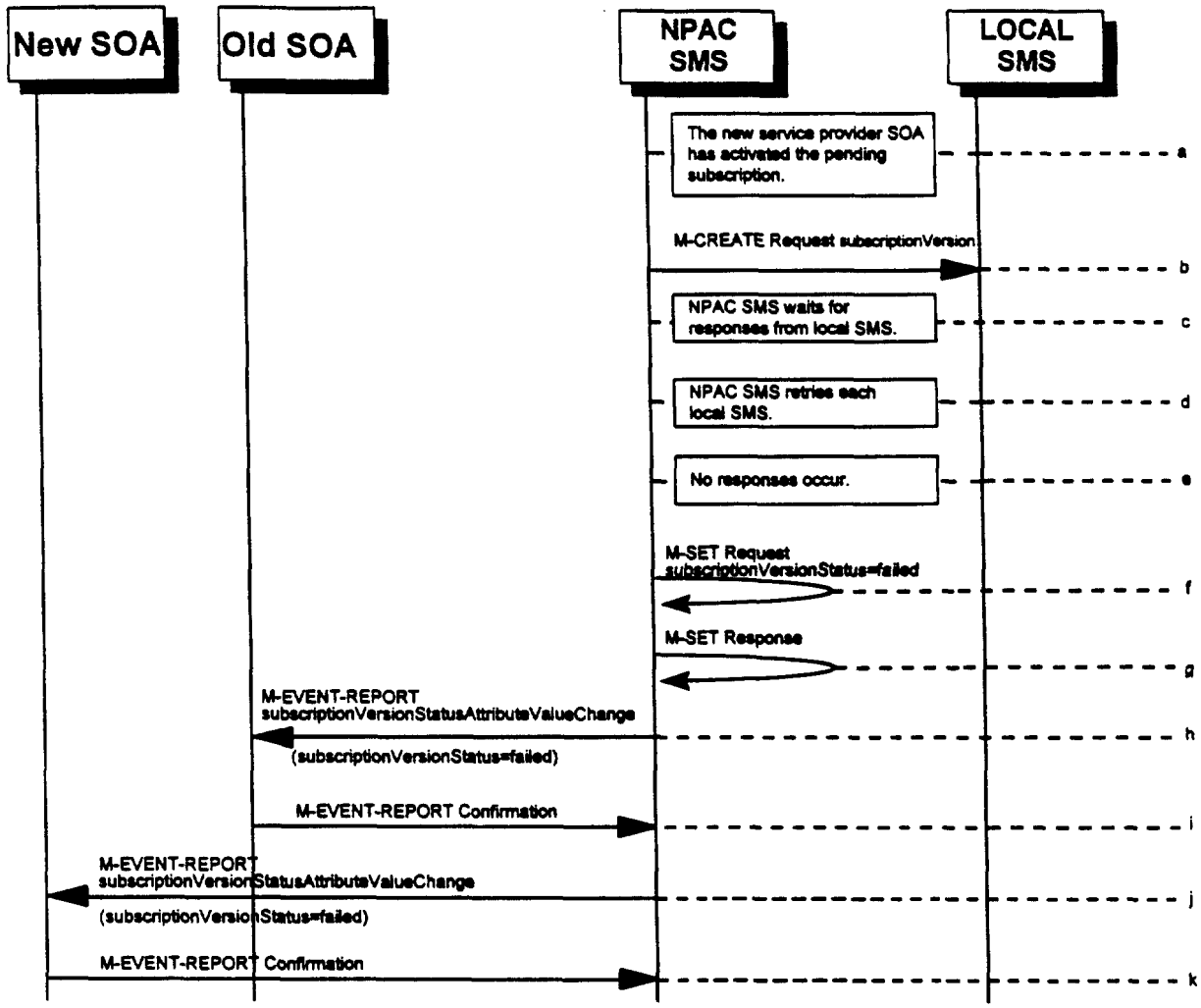
e. The old service provider SOA returns an M-EVENT-REPORT confirmation to the NPAC SMS.

f. If the subscriptionVersionNPAC object was modified, the NPAC SMS notifies new service provider SOA of the status change.

g. The new service provider SOA returns an M-EVENT-REPORT confirmation to the NPAC SMS.

6.5.1.7. SubscriptionVersionCreate M-CREATE Failure to Local SMS

This scenario shows a failure to all of the Local SMS on M-CREATE.



a. The new service provider SOA has activated the pending subscription.

b. The NPAC SMS issues an M-CREATE for the subscriptionVersion to each of the Local SMSs.

c. NPAC SMS waits for responses from each Local SMS.

d. NPAC SMS resends to each Local SMS up to a tunable number of retries at a tunable interval.

e. No responses occur from any Local SMS or all Local SMSs report a failure response to the M-CREATE.

f. NPAC SMS issues M-SET to update the subscriptionVersionStatus to "failed" in the subscriptionVersionNPAC object, the subscriptionFailed-SP-List, and the subscriptionModifiedTimeStamp.

g. NPAC SMS issues M-SET response.

h. If the subscriptionVersionNPAC was modified, the NPAC SMS will send M-EVENT-REPORT to the old service provider SOA of the subscriptionVersionStatus change.

i. The old service provider SOA returns an M-EVENT-REPORT confirmation to the NPAC SMS.

j. If the subscriptionVersionNPAC was modified, the NPAC SMS will send M-EVENT-REPORT to the new service provider SOA of the subscriptionVersionStatus change.

k. The new service provider SOA returns an M-EVENT-REPORT confirmation to the NPAC SMS.

h. NPAC SMS issues M-SET response.

i. If the subscriptionVersionNPAC was modified, the NPAC SMS will send M-EVENT-REPORT to the old service provider SOA of the subscriptionVersionStatus change and a list of failed Local SMSs.

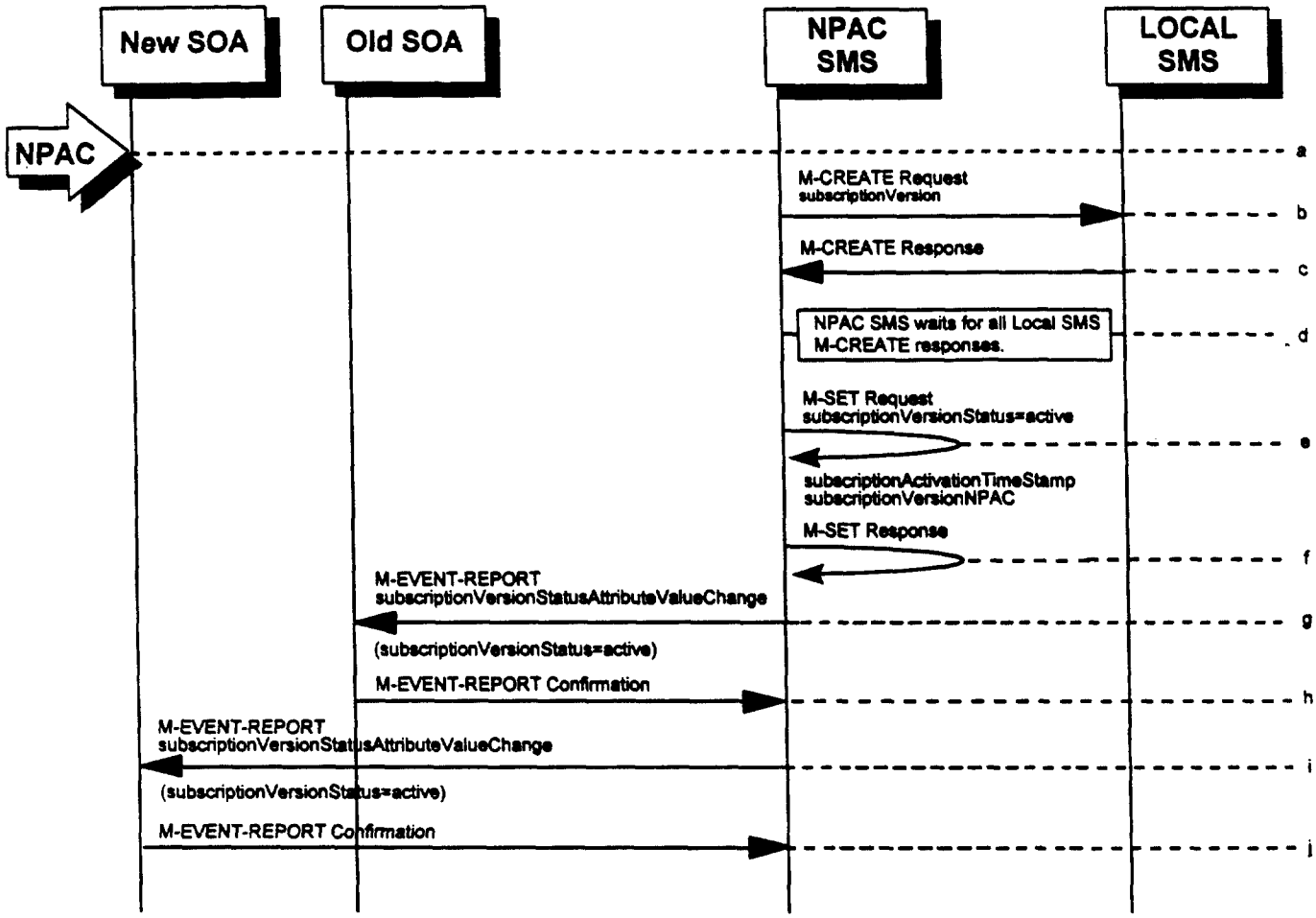
j. The old service provider SOA returns an M-EVENT-REPORT confirmation to the NPAC SMS.

k. If the subscriptionVersionNPAC was modified, the NPAC SMS will send M-EVENT-REPORT to the new service provider SOA of the subscriptionVersionStatus change and a list of failed Local SMSs.

l. The new service provider SOA returns an M-EVENT-REPORT confirmation to the NPAC SMS.

6.5.1.9. Create Subscription Version: Resend Successful to Local SMS Action

This scenario shows the successful resend of a subscription version create. The resend of a failed subscription version create can only be performed by authorized NPAC personnel.



a. NPAC personnel take action to resend a failed subscriptionVersion create.

b. The NPAC SMS issues an M-CREATE for the subscriptionVersion to each of the Local SMSs that previously failed.

c. Each Local SMS will reply to the M-CREATE.

d. NPAC SMS waits for all Local SMSs to report successful subscription version creation.

e. NPAC SMS issues an M-SET to update the subscriptionVersionStatus to "active" for the subscriptionVersionNPAC if all creates are successful and the previous version status was failed it also sets the subscriptionActivationTimeStamp and subscriptionModifiedTimeStamp for the current version.

f. NPAC SMS responds to M-SET.

g. If the subscriptionVersion NPAC object was modified, the NPAC SMS will issue M-EVENT-REPORT notifications to the old service provider SOA of

the status change using an M-EVENT-REPORT subscriptionVersionStatusAttributeValueChange.

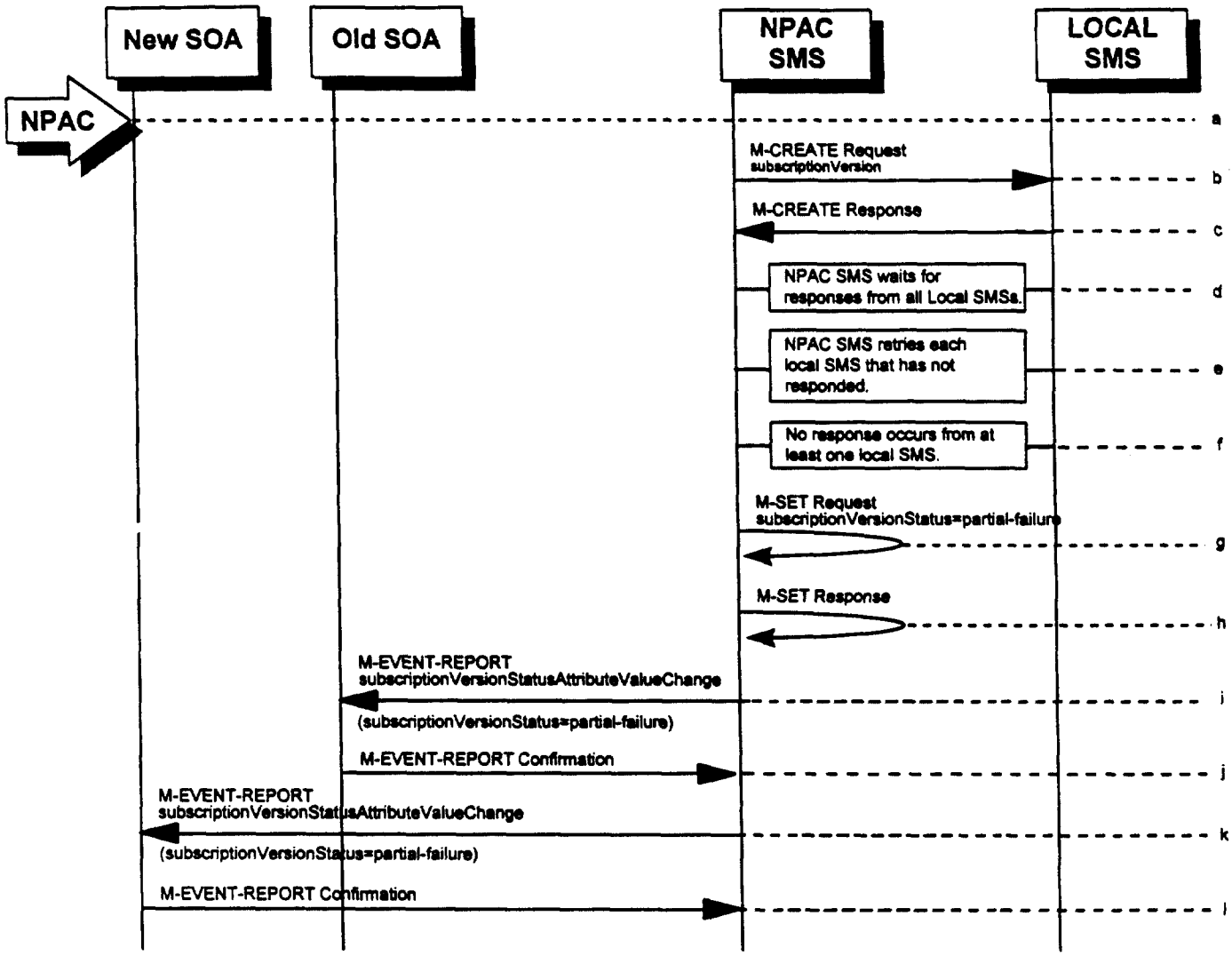
h. The old service provider SOA returns an M-EVENT-REPORT confirmation to the NPAC SMS.

i. If the subscriptionVersion NPAC object was modified, the NPAC SMS will issue M-EVENT-REPORT notifications to the new service provider SOA of the status change using an M-EVENT-REPORT subscriptionVersionStatusAttributeValueChange.

j. The new service provider SOA returns an M-EVENT-REPORT confirmation to the NPAC SMS.

6.5.1.10. Subscription Version: Resend Failure to Local SMS

This scenario shows a failure on a resend of a Subscription Version M-CREATE a Local SMS. The resend of a failed modified active version can only be performed by authorized NPAC SMS personnel.



a. The NPAC personnel issues a resend for the failed or partially failed subscriptionVersion.

b. The NPAC SMS issues an M-CREATE for the subscriptionVersion to each of the Local SMSs for which the M-CREATE previously failed

c. One or more Local SMSs respond to the M-CREATE.

d. NPAC SMS waits for responses from each Local SMS.

e. NPAC SMS resends, to each unresponsive Local SMS, up to a tunable number of retries at a tunable interval.

f. No responses occur from at least one or all Local SMSs, or one or all Local SMSs return an M-CREATE failure.